

6. The green principle is analogous to that found in the involucra of other insects having no vesicating powers.

7. The other principles, as the black and yellow substances, are produced by other insects, and are modified by the process followed in their extraction.

8. Cantharidin is a neutral body, unchanged by acids or alkalies; soluble in cold æther, creosote, oils and fats, and in boiling nitric acid and alcohol.

9. It has neither smell nor taste; but, if a small quantity be laid upon the tongue and pressed against the palate, it produces after a time a scalding sensation. The thing occurs if it be dissolved in æther or oil, which, by aiding its absorption, increases its powers.

10. A very minute quantity of cantharidin is sufficient to excite vesication; for its farther action is arrested the moment that the elevation of the epidermis by the serum removes the absorbents from their contact with it. The vesication, therefore, is not increased either by a larger quantity or longer application of the cantharidin.

11. Cantharidin does not vesicate by irritating or producing any sensible inflammation; (?) its action upon the cutaneous system appears to be limited to the lymphatics, or to a slight stimulus confined to the cutaneous layer below the epidermis; so that the nervous and sanguiferous systems do not suffer at all during the process of vesication. (?)

12, 13, 14. Cantharidin applied to the denuded cutis induces a serous exudation, followed by an atonic suppuration; and acts in the same way that it does on the outer surface; its action is most speedy and painful upon parts most supplied with sebaceous and mucous follicles.

15, 16. Cantharidin is not decomposed when absorbed; and its absorption ceases as the vascular action of the cutis is excited.

17-20. Being carried through the system in an undecomposed state, the cantharidin is eliminated like other foreign matter; but, if the quantity be great, it accumulates in certain parts, and produces its effects according to the nature and susceptibility of the organ. Its stimulating effects upon the urinary passages, and its boasted aphrodisiac powers, are not peculiar properties, but result from the effects of its primary action. Thus, carried along with the urine, it attacks the prostate follicles, producing a state approaching to vesication; and the urine, by increasing this irritation, produces the symptoms of priapism, ischuria, &c. Its poisonous action upon the alimentary canal is produced in an analogous manner, but gives rise to more extensive sympathies.

21. Camphor has no power as an antidote to cantharides.

27. *Experiments on the action of Cantharides on the animal economy in health and disease.* Dr. TOMMASO PULLINO, of Alba, in Italy, has made some experiments with cantharides and cantharidin on the lower animals and man, both in the healthy and diseased states. The following are the results of these experiments.

1. Two grains of cantharidin, given at once to a middle-sized rabbit, produced paralysis, coldness, and death in three hours.

2. A grain and a half dissolved in milk caused the same symptoms, and death in an hour and a half.

3. The same dose with m. xv. of cherry-laurel water caused instant death. The rabbit had five hours previously taken m. xx. without injury. Heart empty and flaccid, stomach pale.

4. A fourth rabbit took two grains in solution, with the same symptoms and convulsions of the hind legs. It then took a few drops of ammoniated æther, and one grain of acetate of morphine, at two doses. It revived, but was not lively, and died in twelve days. Stomach reddish here and there; meninges injected.

5. Two dogs of the same age and size, took, the one ten grains of cantharides in decoction; the other twelve grains in powder. The former was paralysed, and died; and, on examination, presented no inflammation of the stomach. The other tried to vomit, was distressed, writhed, and moaned. He was killed in six hours, when the poison was found undigested, and the stomach reddish.

6. Three more rabbits were killed with cantharidin, and two with cantharides. The stomachs of those that drank after taking the poison were uninjured, and the inflammation in those that did not drink was too slight to account for death.

7. The author took two grains of cantharidin at two doses, fasting, and felt a universal shivering and chill down the spine, skin pale, head oppressed, and in one minute the pulse fell five beats. Urine copious in a quarter of an hour afterwards.

8. A fortnight subsequently, he took two grains at four doses. After the second dose he felt a dull pain in the head, and at the next a little vertigo, the skin being cold and clammy. The pulse, after violent action, lost seven beats in a minute. Urine scalding and copious, although but little fluid had been drunk. In the afternoon he took some alcohol, and then ten drops of ammonia in water, when the vertigo ceased and the urine by midnight no longer scalded. Unusual weakness next day.

9. The following are notes of some cases of disease in which cantharides were exhibited:

(1) *Pleuropneumony*. After two bleedings, the pain continued with bloody sputa of unhealthy consistence. Three grains of cantharides in solution, gradually increased to ten, were taken daily. Continued sweats, urine not increased; sputa healthy, pain gone in sixteen days; eighty-five grains taken.

(2) *Carditis*. 112 grains taken in twenty days; urine scalding at first, very copious and turbid afterwards.

(3) *Beating of arteries* of left side of head preventing sleep; had been treated by many bleedings. The patient took one grain of cantharidin in four doses at short intervals. Vomiting, pulse small, rapid, rigors, vertigo, torpor of lower extremities, and other signs of depression. Æther, opium, wine and generous diet, produced a cure.

(4) *Intermittent fever* threatening suffocation. Bleeding during the paroxysm, and quinine, were followed by ardent and continued fever, dryness of skin, pains in loins, and ischuria. Fifteen grains of cantharidin taken in eight days at first increased the pain, but not the fever. At first, urine bloody, afterwards bluish, then turbid and abundant. Sweat came on soon afterwards, and a cure followed.

(5) *Lumbago*. Cantharides rendered the pulse hard. The patient had had gastritis just before. Cantharides applied to the epigastrium denuded of the cuticle did not lower the pulse. Bloody urine, but no improvement.

(6) *Phlegmasia dolens* in a girl with amenorrhœa. Cantharides cured the swelling, but did not restore the uterine functions.

(7) *Puerperal metropéritonitis* with lumbar pains and dysuria, cured by cantharidin, baths, and mercurial frictions. Urine copious, with some clots of blood.

(8) *Anasarca* with congestion of the spleen, of three years standing, cured by mercurial frictions and cantharidin, carried to six grains per diem. Urine copious, much viscid perspiration, very slow pulse. The patient fell into a very weak state, which was removed by the use of æther and sherry.—*British and Foreign Review*, from *Annali Universali di Med.* Sept. 1835.

28. *New injection for the treatment of blenorragia and leucorrhœa*. An aromatic tincture of gall nuts is employed with success, in the treatment of the above named diseases, in the new hospital, in the rue de l'oursine. It is prepared in the following manner. R. Nux. Gallic. contus. lbj.; Aq. Puræ lbj. Macerate for 12 hours, and then decant the fluid; add to the residue another pint of water and after 12 hours maceration it is also to be decanted. Add to the liquor two pints of rectified alcohol and six ounces of the compound alcoolat of citron, and then filtre. This tincture diluted with from six to eight pints of water is used as an injection.—*Journ. de Pharm.* Sept. 1836.

SURGERY.

29. *Hypertrophy of the Tongue, with induration, cured by the Hydrochlorate of Gold*.—M. BAYLE has successfully treated a case of hypertrophy of the tongue, with induration of the left side, by the use of the hydrochlorate of gold, (1.5 of a grain in milk; frictions on the tongue with lard 3ss., hydrochlorate of gold gr. j.; emollient gargles.) In a few days the tongue was reduced to its natural size, the induration was dissipated and the patient cured.—*Rev. Méd.* Jan. 1836.